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ABSTRACT

Results obtained from scaling the "Drug and Alcohol Survey" (DAS), a questionnaire that assesses the drug involvement of secondary school students are documented. The scales are evaluated in terms of their psychometric properties, their compatability with a change model, and their utility as outcome measures of substance abuse prevention programs. Scales were formed across substances for different variables in the model. This approach generated scales that measured each of the following variables in the model: (1) perceived peer attitudes toward drugs; (2) perceived peer use of drugs; (3) attitudes toward drug use; (4) drug use intentions; (5) lifetime use; and (6) current use. These "variable-specific" scales conformed more closely than substance-specific scales to the change model as well as to the outcome analysis plans. Confirmatory factor analysis procedures were followed. Results are outlined in numerous tables. (Author/GK)

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Psychometric Properties of the "Drug and Alcohol Survey"

Submitted to

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This paper documents the results obtained from scaling the "Drug and Alcohol Survey" (DAS), a questionnaire that assesses the drug involvement of secondary school students. The scales are evaluated in terms of their psychometric properties, their compatability with a change model, and their utility as outcome measures of substance abuse prevention programs.

An earlier report (Moskowitz, Condon, Brewer, Schaps and Malvin, Note 1) described the procedures and results for scaling data collected using the DAS. A scale for each substance was created by applying both confirmatory factor analysis and Guttman scale analysis to the item data. For each substance, an involvement scale was developed that consisted of items measuring: a) perceived peer attitudes toward the substance, b) perceived prevalence of substance use by peers, c) attitude toward substance use, d) intentions to use the substance, e) lifetime use, and f) current use. These involvement scales possessed adequate internal consistency and acceptable reproducibility and scalability in terms of Guttman scale analysis. The results from the Guttman analysis provided strong support for some of the relationships among the variables depicted in our change model (see Figure 1).

Although the measures constructed for the previous report were psychometrically adequate, their utility as measures of program outcomes is limited. Our change model predicts effects of seven substance abuse prevention strategies. The model predicts that the effects of each strategy should be observed on some variables prior to others. For example, the drug education strategy should

first affect attitudes toward using a substance and then affect intentions to use the substance. In the model, outcomes are specified as types of variables and not as specific substances. The involvement scales, however, are substance-specific and include different types of variables from the model; therefore, they may be insensitive to changes in only a few component variables.

For the present analyses, we initially formed scales across substances for different variables in the model. This approach generated scales that measured each of the following variables in the model:

a) Perceived peer attitudes toward drugs;

b) Perceived peer use of drugs;

c) Attitudes toward drug use;

d) Drug use intentions;

e) Lifetime use; and

f) Current use.

These "variable-specific" scales conformed more closely than substance-specific scales to our change model as well as to our outcome analysis plans.

Two measures were constructed for each variable in the model. Each measure contains a subset of the ten substances included in the DAS. One measure asks questions about the traditional "soft" or "gateway" substances: alcohol, cigarettes, and marijuana or hashish. The other measure asks about the following "hard" substances: inhalants, barbiturates or tranquilizers, amphetamines or stimulants, cocaine, PCP, LSD or psychedelics, and heroin or morphine. These two measures are referred to as "soft" and "hard," respectively.

Patterns of item intercorrelations separated variables into two groups. For perceived peer attitudes, perceived peer use, and attitude variables, item intercorrelations within each variable for different substances generally were larger than between variables for the same substance. For example, peer attitudes toward marijuana correlated more highly with peer attitudes toward alcohol (within variable) than with peer use of marijuana (between variable). This pattern supports the separate measures of these three variables.

For drug use intentions, lifetime use and current use item intercorrelations between variables for the same substance generally were as large as within each variable for different substances. For example, marijuana current use correlated as highly with marijuana life use (between variable) as it did with alcohol current use (within variable). All correlations among these three soft variables were greater than .82. As the data indicated that these variables should not be considered separately, we revised our strategy and constructed substance-specific scales for each of the ten substances. Each scale measured intentions to use, life use, and current use for a single substance. We have named these scales "involvement" scales. These three-item scales should not be confused with the six-item involvement scales referred to earlier. Subsequent references to involvement scales pertain to these three-item scales. Figure 2 shows the DAS scales and their relationship to the change model.

METHOD

Sample

The pretest DAS was administered in October 1978 to 1893 students in two junior high schools (grades 7-9) from a predominantly white, middle-class, suburban public school system in Northern California. The posttest DAS was administered in May 1979 to 2912 students in three junior high schools from the same school system. A description of the samples has been provided earlier (Moskowitz, Schaps, Condon, Malvin, and Martin, Note 2).

The present study employed random samples of 473 students from the pretest and 586 students from the posttest.

Survey Administration Procedures

The DAS was administered by four substitute teachers. A make up session was held for students who were absent from the original session.

Students were identified by their school district identification numbers. Questionnaires were pre-labeled with student names on the cover sheet and student identification numbers on page one. In a prepared statement, administrators assured students of complete confidentiality and explained the need for identification numbers as a way of tracking students over time. Students were instructed to tear off the cover page that displayed their names. This was done to enhance the confidentiality induction.

Instrumentation

Different versions of the DAS were employed for the pretest and posttest. There were minor differences in item wordings and response formats, and some

scales were included in the posttest but not the pretest (see Table 1). All scales except Drug Knowledge were scored so that high scores indicate "pro-drug" responses.

The general Drug Attitudes (General Attitude) scale consisted of 17 statements that assessed general attitudes toward licit and illicit substance use. Subjects responsded to items on five-point Likert scales ranging from "strongly agree" to "strongly disagree."

The perceived *benefits* (i.e., positive consequences) of alcohol use (Alcohol Benefits), marijuana use (Pot Benefits), and "pill[1]" use (Pill Benefits), and the perceived *costs* (i.e., negative consequences) of using these same drugs (Alcohol Costs, Pot Costs, and Pill Costs) were measured by separate scales. The Benefits scales consisted of eight questions describing possible benefits of using the substance. Subjects were asked if the drug was instrumental in achieving the benefits, and they responded on four-point scales ranging from "does not help at all" to "helps very much." Each Costs scale consisted of five statements describing possible adverse consequences of using the substance. Subjects responded on four-point Likert scales ranging from "strongly agree" to "strongly disagree" that use of the drug will produce the adverse effects.

The Drug Knowledge (Knowledge) scale consisted of multiple-choice items measuring pharmacological knowledge. Each item had one correct response and several distractors. The Knowledge scale score was the number of correct responses.

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[1]Operationalized as "pep pills, sleeping pills, uppers, downers, soapers."

The Perceived Peer Attitudes Toward Soft Drugs (Soft Peer Attitude) scale measured the attitudes that subjects perceived other students in their grade as having toward use of alcohol, cigarettes and marijuana. The corresponding hard drug scale--Perceived Peer Attitudes Toward Hard Drugs (Hard Peer Attitude)--assessed perceived peer attitudes toward the use of inhalants, barbiturates or tranquilizers, amphetamines or stimulants, cocaine, PCP, LSD or psychedelics, and heroin or morphine. Subjects responded to each substance on a five-point Likert scale ranging from "a very bad thing" to "a very good thing."

The Perceived Peer Use of Soft Drugs (Soft Peer Use) and Perceived Peer Use of Hard Drugs (Hard Peer Use) scales assessed subjects' perceptions of the prevalence of soft and hard drug use among students in their grade. Subjects indicated their prevalence estimate for each substance by using six-point Likert scales ranging from "very few (0%)" to "about three-fourths or more (75%-100%)" of peers.

The Attitude Toward Soft (Soft Attitude) and Hard (Hard Attitude) Drug Use scales assessed subjects' own attitudes toward use of the two types of drugs. The response formats were identical to the Perceived Peer Attitudes scales.

Substance involvement scales were computed for each of the ten drugs: alcohol (Alc), cigarettes (Cig), marijuana or hashish (Pot), inhalants (Inh), barbiturates or tranquilizers (Barb), amphetamines or stimulants (Amp), cocaine (Coc), PCP (PCP), LSD or psychedelics (LSD), and heroin or morphine (Her). Each scale consisted of three items assessing current use,[2] lifetime use, and intentions to use.[3]

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[2]Operationalized on the pretest as "during the past three months" and on the posttest as "during the last four weeks."

[3]Operationalized on the pretest as "during the next two years" and on the posttest as "during the next year."

RESULTS AND DISCUSSION

Table 1 contains the number of items included in the scales and the internal consistency reliability estimates obtained for each sample.[4] Internal consistency was acceptable for all scales (Coefficient Alpha = .70 to .93) except Drug Knowledge. In addition, Alpha for each scale was highly comparable across the two samples. Those scales that were not administered to each sample are noted in the table by "NA."

We employed confirmatory analysis procedures because the measurement model was specified *a priori* and the questionnaire was designed from the model. Oblique multiple group confirmatory factor analyses were applied to each correlation matrix[5] using PACKAGE (Hunter and Cohen, 1969; Hunter and Gerbing, Note 3). Table 2 lists for each sample, the factor loadings of items on the scales assessing: a) general drug attitudes, b) perceived benefits and costs of alcohol, marijuana and pills, and c) drug knowledge. With few exceptions the item factor loadings (or item-scale correlations) were highly similar across the two samples. Thus, the scales measured similar constructs at both administration times.

Table 3 lists for each sample the substance factor loadings obtained for each soft substance scale. Each of the three soft component substances correlated similarly with its scale.

Table 4 contains the substance factor loadings obtained from each sample for the hard substance scales. The factor loadings for the seven hard substances were highly similar across all scales in both samples.

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[4]Item distributions have been reported earlier (Moskowitz, et al., Note 2).

[5]Item intercorrelations were computed using pairwise deletion of missing data and commonalities were inserted into the diagonal elements of the matrix.

Tables 5 and 6 contain the intercorrelations among general drug attitudes, perceived benefits and costs, and drug knowledge scales for both samples. With the exception of drug knowledge, these measures intercorrelated moderately to highly (r = .43 to .82). In contrast, drug knowledge correlated weakly (r = .07 to .21) with the other measures. This is consistent with previous research showing little relationship between drug knowledge and attitudes regarding drug use.[6]

Table 7 contains for each sample the soft substance scale intercorrelations above the diagonal and the hard substance scale intercorrelations in the lower triangle. The scales intercorrelated slightly to moderately (r = .15 to .49), providing support that these variables can be empirically distinguished.

Table 8 contains the intercorrelations between the soft substance scales and the hard substance scales for both samples. The range of correlations in this table was large (r = .04 to .67). For each of the samples, the correlation between any given soft substance scale and any given hard substance scale was considerably smaller than the correlation between the two corresponding soft substance scales and between the two corresponding hard substance scales (appearing in Table 7). The consistent finding that soft-hard relationships were much weaker than either corresponding soft-soft or hard-hard relationships provides support for the discriminant validity of the soft-hard distinction for these measures (Campbell and Fiske, 1959).

Table 9 contains correlations of the intentions, life use, and current use items with the ten substance involvement scales for each sample. The item correlations were uniformly high, indicating that all three items were

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[6]The relationship of drug knowledge to other variables may be attenuated by its low internal consistency.

related in a similar fashion to each involvement measure. Furthermore, the correlations were similar across the two samples.

Table 10 contains the intercorrelations among the ten substance involvement scales for the pretest sample and Table 11 for the posttest sample. The scale intercorrelations are highly similar across the two samples. The intercorrelations among the soft substance (Alc, Cig, Pot) involvement scales (Md r = .59) and among the hard substance scales (Md r = .53) were generally larger than between the soft and hard scales (Md r = .29).

In sum, employing confirmatory factor analysis on two different junior high school samples, we have tested an approach to scaling the Drug and Alcohol Survey which conforms more readily to our change model and outcome data analysis plans. We have found that the resultant scales possess adequate internal consistency, and that the pattern of relationships among the scales was consistent with our expectations. Furthermore, the results obtained were similar for both samples.

TABLE 1

DRUG AND ALCOHOL SURVEY PRETEST AND POSTTEST SCALES AND INTERNAL CONSISTENCY RELIABILITIES (COEFFICIENT ALPHA)

SCALE NAME	NUMBER OF ITEMS	RELIABILITY	
		PRETEST[a]	POSTTEST[b]
General Drug Attitudes (General Attitudes)	17	.92	.93
Perceived Benefits of Alcohol Use (Alcohol Benefits)	8	.85	.85
Perceived Costs of Alcohol Use (Alcohol Costs)	5	NA[c]	.84
Perceived Benefits of Marijuana Use (Pot Benefits)	8	.89	.91
Perceived Costs of Marijuana Use (Pot Costs)	5	NA	.90
Perceived Benefits of Pill Use (Pill Benefits)	8	.92	.91
Perceived Costs of Pill Use (Pill Costs)	5	NA	.89
Drug Knowledge	7	NA	.40
Perceived Peer Attitudes Toward Soft[d] Drugs (Soft Peer Attitude)	3	.87	.84
Perceived Peer Use of Soft Drugs (Soft Peer Use)	3	NA	.82
Attitudes Toward Soft Drug Use (Soft Attitude)	3	.79	.76
Perceived Peer Attitudes Toward Hard Drugs[e] (Hard Peer Attitude)	7	.96	.96
Perceived Peer Use of Hard Drugs (Hard Peer Use)	7	NA	.96
Attitudes Toward Hard Drug Use (Hard Attitude)	7	.93	.93
Involvement in Alcohol Use (Alcohol)	3	.92	.88
Involvement in Cigarette Use (Cig)	3	.92	.91
Involvement in Marijuana Use (Pot)	3	.95	.95
Involvement in Inhalant Use (Inh)	3	.86	.70
Involvement in Barbiturate Use (Barb)	3	.84	.89
Involvement in Amphetamine Use (Amp)	3	.88	.90
Involvement in Cocaine Use (Coc)	3	.75	.88
Involvement in PCP Use (PCP)	3	.83	.86
Involvement in LSD Use (LSD)	3	.70	.87
Involvement in Heroin Use (Heroin)	3	.93	.77

[a] N = 473

[b] N = 586

[c] NA indicates that this scale was not administered.

[d] Soft Drugs = alcohol, cigarettes, and marijuana

[e] Hard Drugs = inhalants, barbiturates or tranquilizers, amphetamines or stimulants, cocaine, PCP, LSD or psychedelics, and heroin or morphine.

TABLE 2

SCALE ITEMS WITH FACTOR LOADINGS FOR EACH SAMPLE

General Drug Attitudes

	Pretest	Posttest	
1.	.72	.79	I would like the chance to get high on drugs.
2.	.72	.72	I would not use drugs even if they were legal and easy to get.
3.	.63	.67	Taking any kind of dope is a pretty dumb idea.
4.	.67	.70	If I were a parent I wouldn't mind if my kids got high once in a while.
5.	.60	.67	Taking drugs is bad because that would be breaking the law.
6.	.67	.64	Anyone who uses drugs belongs in jail.
7.	.74	.70	It is OK for a person to use drugs if they make him feel good.
8.	.74	.77	It's OK for young people to buy alcohol if they can get away with it.
9.	.59	.68	I admire people who like to get stoned.
10.	.60	.55	Taking drugs is dangerous because they are unhealthy.
11.	.66	.68	There is really nothing wrong with using most drugs.
12.	.64	.69	People my age should not drink alcohol because it would be breaking the law.
13.	.53	.64	It's OK for a person to drink alcohol if it makes him feel better.
14.	.62	.65	I would not drink alcohol because it can harm my body.
15.	.75	.67	It's OK to try drugs once or twice just to see what they are like.
16.	.43	.54	People who get "up tight" should take pills to calm them down.
17.	.52	.54	I don't need drugs to feel good.

Perceived Benefits of Alcohol Use			How much does drinking alcohol (beer, wine, liquor) help a person to . . .
	Pretest	Posttest	
1.	.74	.75	stop feeling bored or lonely?
2.	.78	.73	feel good?
3.	.69	.71	have fun with friends?
4.	.64	.64	get away from problems?
5.	.69	.67	experience new things?
6.	.61	.58	face a difficult situation?
7.	.53	.59	do things better or be more creative?
8.	.54	.49	become popular or one of the crowd?

Perceived Costs of Alcohol Use		Drinking alcohol . . .
	Posttest	
1.	.67	makes a person feel bad.
2.	.74	makes a person lose their friends.
3.	.76	makes a person do poorly in school.
4.	.74	is bad for a person's health.
5.	.69	gets a person in trouble with the law.

Perceived Benefits of Marijuana Use			How much does smoking marijuana (grass, pot, hash) help a person to . . .
	Pretest	Posttest	
1.	.86	.85	stop feeling bored or lonely?
2.	.82	.83	have fun with friends?
3.	.85	.81	feel good?
4.	.75	.76	experience new things?

5.	.82	.73	get away from problems?
6.	.69	.68	do things better or be more creative?
7.	.68	.69	face a difficult situation?
8.	.65	.63	become popular or one of the crowd?

Perceived Costs of Marijuana Use	Posttest	Smoking marijuana . . .
1.	.81	makes a person lose their friends.
2.	.79	makes a person feel bad.
3.	.84	is bad for a person's health.
4.	.78	makes a person do poorly in school.
5.	.75	gets a person in trouble with the law.

Perceived Benefits of Pill Use	Pretest	Posttest	How much does taking pills (pep pills, sleeping pills, uppers, downers, soapers) help a person to . .
1.	.82	.83	stop feeling bored or lonely?
2.	.82	.84	feel good?
3.	.70	.78	have fun with friends?
4.	.72	.74	experience new things?
5.	.77	.75	get away from problems?
6.	.61	.67	do things better or be more creative?
7.	.66	.68	face a difficult situation?
8.	.63	.65	become popular or one of the crowd?

Perceived Costs of Pill Use	Posttest	Taking pills . . .
1.	.79	makes a person lose their friends.
2.	.80	makes a person do poorly in school.
3.	.76	makes a person feel bad.
4.	.82	is bad for a person's health.
5.	.80	gets a person in trouble with the law.

Drug Knowledge	Posttest	
1.	.55	The substance in marijuana that gets you high is _____. 1. PCP 2. LSD 3. opium 4.* THC
2.	.28	Which of the following drugs is a depressant (downer)? 1. marijuana 2.* alcohol 3. tobacco 4. LSD
3.	.25	Which of the following drugs is a stimulant (upper)? 1. alcohol 2.* cocaine 3. marijuana 4. PCP
4.	.44	The effects of which drug are most like the effects of alcohol? 1. marijuana 2. LSD 3. amphetamines 4.* barbiturates
5.	.28	What part of the body is most likely to be damaged when alcohol is used heavily? 1.* liver 2. stomach 3. heart 4. lungs
6.	.06	Marijuana stays in your body _____. 1.* for a longer time than alcohol 2. for a shorter time than alcohol 3. about the same length of time as alcohol.
7.	.23	Which of the following drugs can be addicting? 1. alcohol 2. heroin 3. barbiturates (downers) 4.* all of these

*This response was scored 1, all other responses were scored 0.

TABLE 3

SOFT SUBSTANCE FACTOR LOADINGS FOR EACH SCALE IN EACH SAMPLE

	Soft Peer Attitude		Soft Peer Use	Soft Attitude	
SUBSTANCE	Pretest	Posttest	Posttest	Pretest	Posttest
Alcohol	.76	.82	.75	.74	.69
Cigarettes	.87	.82	.78	.74	.66
Marijuana	.87	.77	.80	.76	.84

TABLE 4

HARD SUBSTANCE FACTOR LOADINGS FOR EACH SCALE IN EACH SAMPLE

	Hard Peer Attitude		Hard Peer Use	Hard Attitude	
SUBSTANCE	Pretest	Posttest	Posttest	Pretest	Posttest
Inhalants	.89	.85	.83	.82	.77
Barbiturates or Tranquilizers	.91	.91	.92	.79	.86
Amphetamines or Stimulants	.90	.90	.91	.87	.82
Cocaine	.84	.84	.82	.79	.81
PCP	.91	.91	.88	.86	.89
LSD or Psychedelics	.86	.93	.89	.80	.88
Heroin or Morphine	.88	.89	.85	.79	.78

TABLE 5

GENERAL ATTITUDE AND UTILITY SCALE INTERCORRELATIONS[a]

PRETEST SAMPLE

	General Attitude	Alcohol Benefits	Pot Benefits	Pill Benefits
General Attitude		.53	.59	.48
Alcohol Benefits			.78	.77
Pot Benefits				.75

[a] $p<.01$ when $r>.12$

TABLE 6

GENERAL ATTITUDE, UTILITY, AND KNOWLEDGE SCALE INTERCORRELATIONS[a]

POSTTEST SAMPLE

	General Attitude	Alcohol Benefits	Alcohol Costs	Pot Benefits	Pot Costs	Pill Benefits	Pill Costs	Drug Knowledge
General Attitude		.65	.70	.66	.78	.54	.66	.12
Alcohol Benefits			.52	.82	.59	.71	.50	.07
Alcohol Costs				.47	.73	.43	.62	.09
Pot Benefits					.68	.76	.55	.09
Pot Costs						.50	.67	.13
Pill Benefits							.60	.10
Pill Costs								.10

[a] $p < .01$ when $r > .12$

19.

TABLE 7

SOFT (HARD)[a] SUBSTANCE SCALE INTERCORRELATIONS

	PRETEST SAMPLE			POSTTEST SAMPLE		
	Peer Attitude	Peer Use	Attitude	Peer Attitude	Peer Use	Attitude
Peer Attitude		NA[b]	.49		.47	.34
Peer Use	NA	NA	NA	(.52)		.27
Attitude	(.29)	NA		(.37)	(.15)	

[a]Soft substance scale intercorrelations are above diagonal and hard substance scale intercorrelations are below diagonal.

[b]NA indicates that this scale was not administered

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TABLE 8

SOFT--HARD SUBSTANCE SCALE INTERCORRELATIONS

	PRETEST SAMPLE			POSTTEST SAMPLE		
	Hard Peer Attitude	Hard Peer Use	Hard Attitude	Hard Peer Attitude	Hard Peer Use	Hard Attitude
Soft Peer Attitude	.59	NA	.22	.67	.29	.23
Soft Peer Use	NA	NA	NA	.31	.45	.16
Soft Attitude	.11	NA	.58	.21	.04	.67

TABLE 9

INVOLVEMENT SCALE FACTOR LOADINGS

PRETEST SAMPLE

	Alc	Cig	Pot	Inh	Barb	Amp	Coc	PCP	LSD	Her
Intentions	.88	.93	.94	.82	.72	.82	.72	.83	.99	.84
Current Use	.91	.94	.96	.96	.75	.86	.77	.81	.32	.93
Life Use	.97	.82	.91	.70	.93	.86	.63	.74	.71	.96

POSTTEST SAMPLE

	Alc	Cig	Pot	Inh	Barb	Amp	Coc	PCP	LSD	Her
Intentions	.86	.92	.92	.75	.83	.86	.86	.83	.78	.58
Current Use	.77	.90	.90	.69	.86	.82	.77	.76	.77	.97
Life Use	.89	.92	.94	.57	.87	.91	.91	.86	.95	.67

TABLE 10

INVOLVEMENT SCALE INTERCORRELATIONS
PRETEST SAMPLE

		SOFT			HARD					
		Alc	Cig	Pot	Inh	Barb	Amp	Coc	PCP	LSD	Her
SOFT	Alc		.52	.62	.23	.37	.39	.32	.24	.21	.14
	Cig			.59	.28	.29	.36	.29	.24	.24	.22
	Pot				.20	.39	.51	.50	.39	.29	.21
HARD	Inh					.54	.44	.25	.42	.40	.45
	Barb						.70	.56	.63	.60	.58
	Amp							.64	.56	.54	.38
	Coc								.50	.58	.43
	PCP									.56	.54
	LSD										.68

TABLE 11

INVOLVEMENT SCALE INTERCORRELATIONS

POSTTEST SAMPLE

		SOFT			HARD						
		Alc	Cig	Pot	Inh	Barb	Amp	Coc	PCP	LSD	Her
SOFT	Alc		.53	.59	.27	.30	.39	.36	.17	.22	.08
	Cig			.65	.32	.28	.41	.30	.24	.20	.12
	Pot				.29	.36	.55	.55	.30	.29	.12
HARD	Inh					.44	.37	.31	.37	.50	.52
	Barb						.57	.43	.42	.44	.34
	Amp							.70	.48	.56	.32
	Coc								.59	.55	.35
	PCP									.65	.50
	LSD										.61

FIGURE 1

HYPOTHESIZED CHANGE MODEL

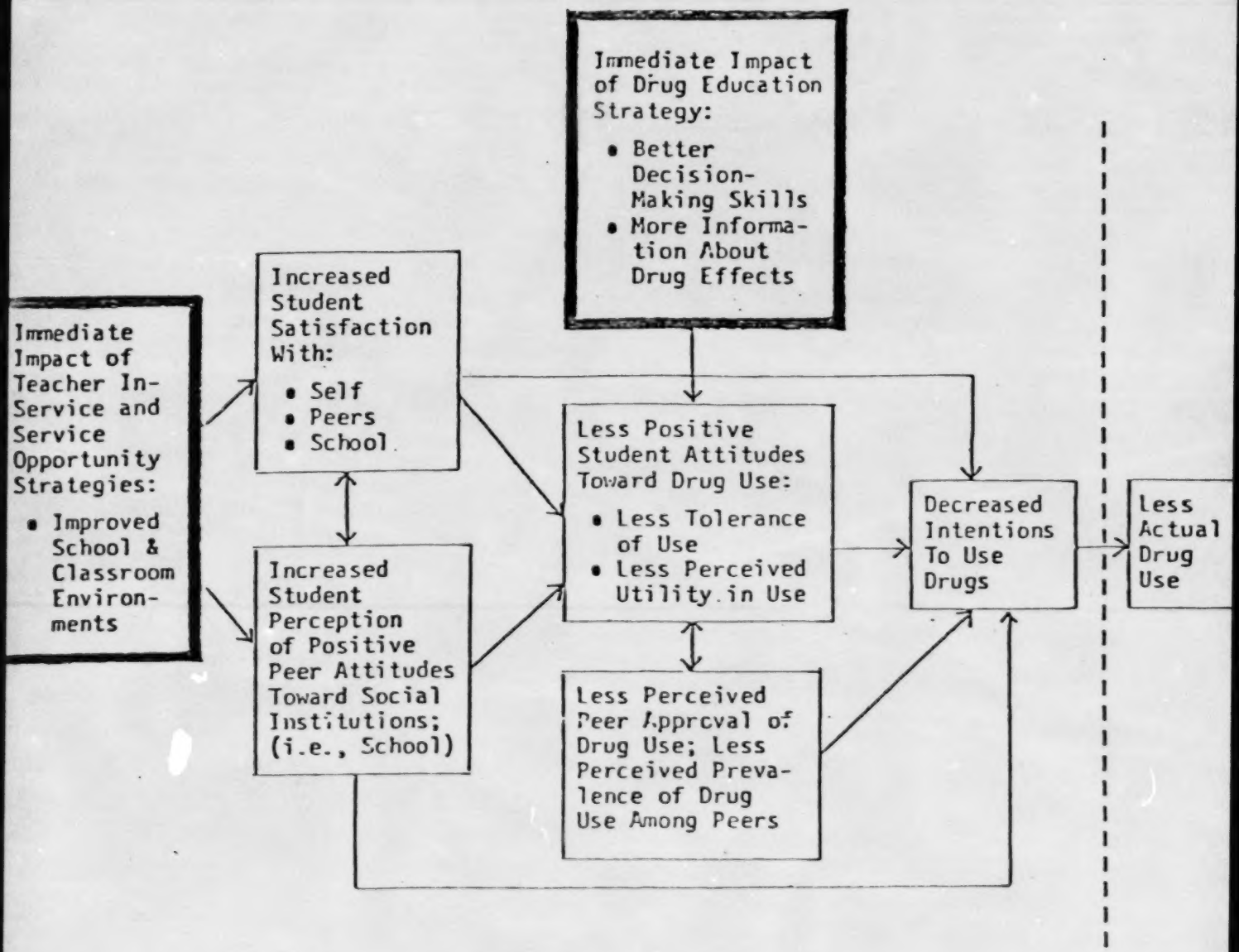
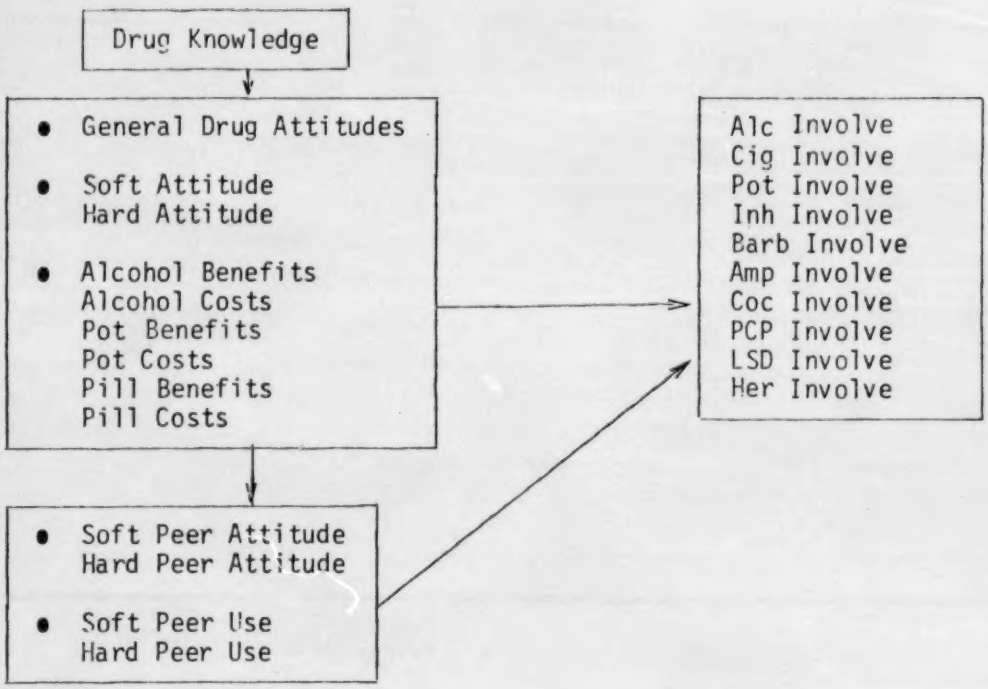

Immediate Impact of Drug Education Strategy:
• Better Decision-Making Skills
• More Information About Drug Effects
Immediate Impact of Teacher In-Service and Service Opportunity Strategies:
• Improved School & Classroom Environments
Increased Student Satisfaction With:
• Self
• Peers
• School
Increased Student Perception of Positive Peer Attitudes Toward Social Institutions; (i.e., School)
Less Positive Student Attitudes Toward Drug Use:
• Less Tolerance of Use
• Less Perceived Utility in Use
Less Perceived Peer Approval of Drug Use; Less Perceived Prevalence of Drug Use Among Peers
Decreased Intentions To Use Drugs
Less Actual Drug Use

FIGURE 2

RELATIONSHIP OF DRUG AND ALCOHOL SURVEY SCALES
TO THE CHANGE MODEL



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